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Languages of medicine – present and future

ABSTRACT

Languages for Specific Purposes (LSPs) are imperative of modern social development.
The language of medicine is founded on Greco-Latin terminology and has specific lexical and discourse features.
The global spread of science and technology has made the English language *lingua franca* of international communication. Due to huge development of medical science and practice, the English language of medicine has become the leading language. Modern medicine has transgressed the boundaries of the Greco-Latin terms and must create a new terminology for medical branches, illnesses and disorders, state-of-the-art technology and the pharmaceutical industry**.**
The English language of medicine has been extensively studied. It serves as a model for other nations as to how to create their languages of medicine which are under its strong influence.
Medicine has numerous specializations and subspecializations which require specific language of medicine.
It is necessary to organise LSP teacher education at philological faculties.

Key words: LSPs, languages of medicine, English, medical terms

Languages for Specific Purposes (LSPs)

Specialized languages usually refer to the specific discourse used by professionals and specialists to communicate and transfer information and knowledge. There are as many specialised languages as there are professions. That is what has usually been known as Languages for Specific Purposes or, when applied to English, English for

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Specific Purposes (ESP), i.e., the special discourse used in specific settings by people sharing common purposes. Occupational registers provide an efficient code for the transfer of information among specialists, because they provide a practical and convenient shorthand for talking about complex matters specific to a field.

English for Specific Purposes (ESP)

The relevance of English in academic and professional settings began some decades ago, in the 1960s, and it has not decreased. Orr (2002, 1) said that ESP "is an exciting movement in English language education that is opening up rich opportunities for English teachers and researchers in new professional domains". Following Ypsilandis and Kantaridou (2007, 69), English for Academic Purposes (EAP) "refers mainly to the academic needs of students and of future professionals who would seek a career in the academic environment" and English for Professional Purposes (EPP) refers to "the actual needs of (future) professionals at work". These two broad fields or categories also involve many different areas and fields of interest and research.

Dudley-Evans and St John (1998, 19) said that "ESP is essentially a materials- and teaching-led movement" closely interlinked with Applied Linguistics and English Language Teaching. When looking deeper into the research trends or approaches in ESP, they refer especially to register analysis, rhetorical and discourse analysis, analysis of study skills, and analysis of learning needs (Ruiz-Garrido, Palmer-Silveira and Fortanet-Gómez 2010, 1-2).

For most of its history, English for Specific Purposes (ESP) has been dominated by English for Academic Purposes (EAP), and by the subspecialty English for Science and Technology (EST) (Swales, 1988); EAP continues to dominate internationally (Johns and Dudley-Evans 1993, 124). EAP and ESP are now commonly referred to as International Scientific English (ISE). The common feature of this discourse community is the skilful use of English to write science. Scientific research, not language, is the focus and this has interesting consequences for the teaching of EST. If English is seen as ISE, it forms part of science, and is therefore also an integral part of 'becoming a scientist' nowadays (Wood 2001, 81-83).

Language or Languages of Medicine?

Medical language is the occupational register of physicians and it is largely opaque outside the medical community. Several authors have commented on one particular feature of medical language. McCullough (1989) and Mintz (1992) see medical lan-

guage as an abstract discourse about disease and organs and emphasize its distancing function, an artifact of its commitment to objectivity. Crookshank (1923), Cassell (1976), Warner (1976) and Fleischman (1999) have commented on the lexicalisation of diseases as static entities rather than dynamic processes (Fleischman 2003, 475).

The English language, with scientific and professional development, is no longer a foreign language for other nations, but it has become a mother tongue, it is *lingua franca*, which used to be Latin once upon a time. English has become the *lingua franca* of medicine and most scientific fields since 95% of medical papers come from English speaking countries (Pilegaard 2000, 7).

Huge Development of Medicine

In the past two centuries epochal discoveries have been made in natural sciences, particularly medicine which takes a special place since it has been as old as mankind. The new branches of fundamental medical science such as molecular biology, genetics and biomedicine have become the foundation of understanding and interpreting medicine. These disciplines have been followed by numerous clinical subdisciplines. It means that the medical science returned to the cellular level and, for the first time, scientists discovered *genetic structure of the human genome*, which made possible cloning of the human being. Furthermore, we are witnessing the appearance of new parasitic and viral diseases (*virus synthesis was made* – polio) caused by *prions* (SARS – severe acute respiratory syndrome, *mad cow* disease, *avian flu,* and the latest deadly form of flu caused by H1N1 virus). Finally, the most prominent has been a huge progress of modern technology and its application in medicine (*electron microscope, computer, scanner, magnetic resonance imaging, ultrasound* and others). The most recent trend is related to *nanotechnology* which implies creating machines of very minute dimensions, the size of a molecule (a nanometre is one thousand millionth of a metre!) In not so near future, it seems that those machines called *nanorobots* will be used in treatment (destroying viruses or cancer cells, recovering damaged cells and tissues) as well as in control of the ageing process.

English for Medical Purposes (EMP) - present

Such huge development of *medical science and practice* requires further improvement of *the language of medicine.* It has become necessary to create *new terms* not only for new illnesses and disorders but a totally new terminology for fundamental medical branches, particularly terms for state-of-the-art technology. It has been shown that

the language of medicine finds it hard to keep pace with medical science and practice. It frequently *describes* rather than *defines* incompletely understood natural phenomena.

Modern medicine has transgressed the boundaries of the Greco-Latin terms and must create a new terminology (Mićić 2009 a, 231-234).

Jammal (1988) comments that science flies and its terminology walks – typically at a pace that lags far behind scientific advances. New disease names emerge, and changes are observed in the meanings of established disease names. Medicine is so highly compartmentalized that, for example, one's background in surgery and emergency medicine offers little help when one is faced with a dermatology translation. This makes research crucial (O'Neill 1998, 76).

The English language of medicine has been understood well and extensively studied. It serves as a model for other nations how to create their languages of medicine. The Greco-Latin basis of terms is but one feature of the language of medicine, which, in the case of English, manifests a special preference for synonym, eponym, acronym and abbreviation use (*myopia, shortsightedness; Parkinsonism; laser; AIDS).* There are a number of forms specific for the English language of medicine. There is a very precise and elaborate popular terminology related to illnesses (apart from the technical Greco-Latin term *herpes zoster,* there is a native English word *shingles).* Thus there is a tendency to use a descriptive term taken from everyday language rather than a learned expression (*clotting* rather than *coagulation*). Also, ordinary words with medical meaning are more frequently used (*growth* for *tumour* or *temperature* for *fever*). Such words are termed semi-technical words (Trimble 1985, 129). In clinical medicine there are a number of technical idiosyncratic phrases which in the context of everyday speech and writing sound, to put it mildly, strange (*The patient presented with jaundice).* Last but not least, in the English language of medicine there are noun strings plus necessary adjectives (less often verbs and adverbs) forming a concept with a "single noun" idea (*nominal compounds*) (NCs). The English language of medicine is full of such compounds (Mićić 2011, 535).

Features of scientific texts

According to Parkinson (2000, 371), scientific texts are characterized by the following features:

- Nominalization of verbs and adjectives, e.g. *A* ***preoccupation*** *with minor indiscretions from the past often occurs in such patients.*
- Technical phrases (medical jargon), e.g. *The patient* ***presented with*** *jaundice.*

- Extended nominal groups/collocations, e.g. *small middle meatal polyps*
- Tentative language (hedging), e.g. *Reduced attachment in the face of polymorph infiltration **might** indirectly reflect aspects of the immune response...*
- Causal and reasoning verbs, e.g. *Addiction **is caused** by heroin.*
- Impersonal language and passivisation, e.g. *The epidermis **is molded** over the papillae of the dermis.*

Grammatical and syntactic features of English for Medical Purposes (EMP)

Among grammatical and syntactic features of EMP, the following may be singled out:

- Reporting verbs, e.g. *The patient **reported** severe side-effects.*
- Non-temporal use of Tenses (Present, Past mostly), e.g. *He **goes** to hospital tomorrow.*
- Passive, e.g. *It **should be noted** that phase-contrast microscopy is not useful with fixed and stained material.*
- Modals, e.g. *It **must** have been Tuesday when she went to the doctor's.*
- Conditional expressions, e.g. ***If** she falls over, she'll hurt herself.*

Semantic (lexical) features of EMP

Greek and Latin are still the basis for medical terminology (Mc Morrow 1998, 14) because they are precise and internationally comprehensible (Berghammer 2006, 40). The most systematic continuing use of medical Greek and Latin is in the official *Nomina Anatomica* (anatomical terms, abbreviated NA), a standardized list of anatomical terms. Greek- and Latin-based terms can be analysed from prefixes, roots and suffixes so that the meaning is readily understood (for instance, "ultramicrotomy": "ultra" = excess, beyond; "micro" = minute, small; "tomy" = cutting (hence, "the technique of cutting into very thin pieces") (Tables 1, 2 and 3).

Table 1. Some English and Serbian medical terms used in their Greco-Latin form

Latin	English	Serbian
laryngitis,-tidis,f.	laryngitis	laringitis
herpes,-etis,m.	herpes	herpes
discus,-i,m.	disc	diskus
paralysis,-is,f.	paralysis	paraliza
sinus,-us,m.	sinus	sinus
anaemia,-ae,f.	anaemia	anemija
nervus,-i,m.	nervus	nerv
asthma,-atis,n.	asthma	astma
polypus,-i,m.	polyp	polip
carcinoma,-atis,n.	carcinoma	karcinom
cancer,-i,m.	cancer	kancer
libido,-dinis,f.	libido	libido
nephritis,-tidis,f.	nephritis	nefritis

Table 2. Some English medical terms with Greco-Latin basis and their Serbian popular equivalents

Latin	English	Serbian
atrium,-ii,n.	atrium	pretkomora
cicatrix,-icis,f.	cicatrix	ožiljak
uterus, -i, m.	uterus	materica

Table 3. Some English and Serbian medical terms with parallel Greco-Latin forms

Latin	English	Serbian
uterus, -i,m.	uterus/womb	materica
manus,-us,f.	manus/ hand	ruka (but: manuelni)
dens,-entis,m.	dens/tooth	zub (but: dentografija)
diarrhea,-ae,f.	diarrhea/lientery	proliv (but: dijareja)

Source: Mićić, Marković 2011, 840-841

In ESP/ISE, differences are made between terms or specialist vocabulary and semi-technical, subtechnical, context-independent academic words that occur with high frequency across disciplines (Jordan 1997, 152). Words can have special meanings in specific fields, or one or more ‘general’ English meanings, or have an extended meaning in specific fields (Trimble 1985, 129). Students must be aware of the difference between sub-medical and proper medical terminology because the choice depends on the audience (Wakabayashi 1996, 360). Coxhead and Nation write about four categories: high frequency words; the academic vocabulary (sub-technical vocabulary); technical vocabulary; and low frequency words (Coxhead and Nation 2001, 252). Terms are often cognate with the equivalent term in the students’ first language and pose only pronunciation difficulties ("diagnosis" = *dijagnoza*, or "pneumonia" = *pneumonija*). Non-cognate terms, especially subtechnical concepts, need explanation and a different pedagogical approach ("history" = *anamneza*, or "strain" = *naprezanje*). English has a synonym in everyday speech for many medical terms, such as "hemorrhage/bleeding" or "myopia/shortsightedness". The choice of word depends on the audience.

The third lexical feature of ESP/ISE are noun strings plus necessary adjectives (less often verbs and adverbs) forming a concept with a "single noun" idea (compounds or collocations). The English language of medicine is full of such compounds. The fast growth of scientific knowledge in the past half century has generated many new terms, particularly multiterm words, such as "chronic obstructive pulmonary disease" (Berghammer 2006, 42). Attempts to translate compounds into a language that does not compound usually result in long and unwieldy phrases (Trimble 1985, 130-131). Examples: "gonadotropin-releasing hormone" = *hormon koji oslobadja gonadotropin*, "arsenic-fast virus" = *virus rezistentan na arsenik* (Micic 2008, 174). It is via collocations that the realization of the term is achieved (Hauenherm 1998, 150). Collocation is the way words combine in a language to produce natural-sounding speech and writing. It takes a greater degree of competence with the language to combine words correctly in productive use. To a native speaker these combinations are highly predictable; to a learner they are anything but.

Collocations are very important in the language of medicine and were the topic of our studies on contrastive analysis of terms for illnesses and disorders in English and Serbian. All terms for illnesses and disorders have been classified into 23 groups according to the features related to the nature of illness. Those features are adjectival-nominal syntagms – collocations, extended by the addition of verbs. It has been concluded that the basic terms are ‘illness’ and ‘disorder’ in English, and ‘bolest’ and ‘poremećaj’ in Serbian. However, English has more

terms to offer for 'illness': 'disease', 'condition', 'sickness', 'complaint'. By combining these basic terms with adjectives and verbs, deep insights into the nature of terms have been obtained.

There are two interesting cases worth mentioning: *sickness* and *fever*. In one sense, they both represent symptoms: *nausea* and *high temperature*. However, they can act as proper 'illnesses' in the following examples: *sleeping sickness* and *yellow fever* where they belong to the categories of 'infectious' and 'contagious' illnesses, respectively.

Common collocations with 'illness' or 'disease' are: *have an illness/disease, get an illness/disease* (those that you often have) and *suffer from an illness/disease* (in more formal contexts and with more serious diseases). Interestingly enough, with 'disorder', the usual collocation is *have a disorder*, not *suffer from a disorder* which makes it a separate category with restricted use. The verbs 'give' and 'have' are called *light verbs*, which means that the action is described by a nominal unit that follows them (Cattell 1984, 2). Also, the verbs 'strike' and 'afflict' are to be stressed because thanks to them the noun has an agentive function – it does the action (Cruse 1973, 11-23). The example is: *Cholera struck him.* Some verbs define the nature of disease, e.g. *die of AIDS* provides the meaning of 'fatal illness', and *contract flu* provides the feature of 'infectious disease'. There are two types of verbs – those that provide negative meaning (as the abovementioned) and those that denote positive meaning, such as: *relieve the pain, staunch bleeding, prevent malaria* etc.

As to adjectives, we can differentiate among those that denote 'nature of illness' such as *congenital, mental, metabolic,* 'severity' like *slight/mild, moderate, severe/serious, fatal*, then 'localization' such as *pulmonary, cardiac, intestinal*, 'duration' – *acute, chronic, prolonged,* 'extent' like *partial, total, endemic, epidemic* 'age' – *infantile, juvenile, senile,* 'cause' – *viral, bacterial.* Like verbs, they can determine the true meaning of 'illness', e.g. *endemic tuberculosis; tuberculosis is a contagious illness.*

These studies have confirmed that all languages are identical at the level of deep structure, but in terms of surface levels they exhibit differences (Mićić 2004, 441-444).

The fourth lexical feature of EMP is hyperonymy and hyponymy. Hyponymic relation, as a semantic category, implies the relationship between specific, narrow and general, wide lexical units. It means that meanings of specific lexical units must be included in the meanings of general lexical units. Thus certain hierarchical relationship is made between a wider term – *hyperonym* and the included term – *hyponym*. The set of lexical units, hyponyms, of the same superior term are called *co-hyponyms* and their interrelation is linear. One of the basic criteria for determining a hypo-

nymic relationship is invariance. So, hyperonymy is created when the same component in a hyperonym is unspecified (illness), and in a hyponym it is specified (pulmonary illness). A determinant has a function of a localizer, it signifies part of the body in which illnesses are manifested. In terminological fund, hyponymy is, as a rule, multilinear, and alternative hyperonymic and hyponymic relations are made (Štasni 2002, 252-255).

Specific characteristics of illness dictate the order of lexemes in hierarchy. The first-line hyponym is general in nature, functioning as a hyperonym (illness); the second-line hyponym is general, too (pulmonary illness); the third-line hyponym is more specific – a concrete example of illness (asthma); the fourth-line hyponyms are complex lexemes (cardiac asthma, bronchial asthma) where *cardiac* and *bronchial* are determiners of localisation; the fifth-line hyponyms are chronic asthma, allergic asthma, psychogenic asthma, where *chronic, allergic, psychogenic* represent causative agents (Figure 1). From a lexicographic point of view, hyperonymy is extremely important, because a hyponym is most commonly defined via a hyperonym: pulmonary illness – asthma; asthma is a pumonary illness (Štasni 2002, 257-259; Mićić 2006, 271).

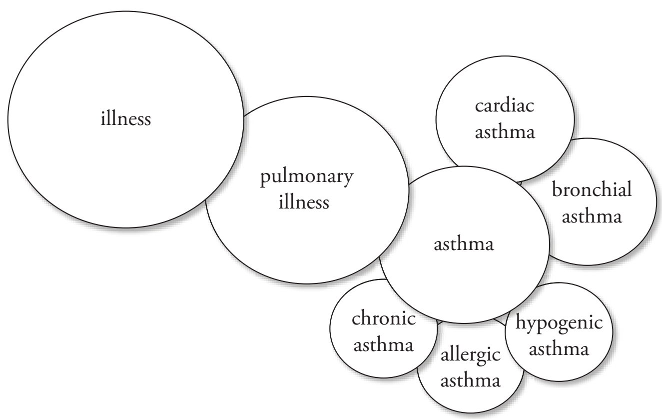


Figure 1. Hyperonymic and hyponimic relations of the term illness

Metaphors are also one of the lexical features of the language of medicine. There may be identified (1) the kinds of metaphors used to structure medical concepts and (2) the functions of metaphorical expressions in medical texts (catachretic, didactic and theory-constitutive). Of particular importance are didactic metaphors as they refer to doctor-patient communication. The dominant conceptual metaphor in American culture is that disease is an outrage and "Medicine is war". *Fighting disease* is emphasized rather than caring for sick patients. This metaphor entails that action

is a virtue, doctors are fighters, technologies are weapons and disease is the enemy. The language of medicine assigns physicians an active role and patients, by default, a passive role. Another major conceptual metaphor of biomedicine is "The body is a machine". According to this view, the individual is seen as the sum of the body's parts, e.g. "The heart is a pump", "The digestive system is plumbing", "The brain is a computer", "A cell is a machine", and "Cells contain machinery". In virtually every language and every culture *body parts serve as metaphors.* They come to stand for perceived physical or mental states, such as *eat your heart out!, he hasn't a leg to stand on, it makes my blood boil, she gets under my skin, a gut reaction, get off my back!,* or *in your face* – all based on associative meanings that attach to the respective body parts in English. Some of these associations extend across languages and across cultures (Fleischman 2003, 484-488; Mićić 2009 a, 125-127).

It is usually epidemics that are thought of as plagues. And these mass incidences of illness are understood as inflicted, not just endured (Sontag 1990, 133). The disease is often experienced as a form of demonic possession – tumours are 'malignant' or 'benign', like forces – and many terrified cancer patients are disposed to seek out faith healers, to be exorcised (Sontag 1990, 69). AIDS and cancer are two diseases that provide very illustrative metaphors. More than cancer, but rather like syphilis, AIDS seems to foster ominous fantasies about a disease that is a maker of both individual and social vulnerabilities (Sontag 1990, 153).

Discourse features of EMP

Medical writing style implies a certain degree of impersonality, avoidance of prolixity, exact description, fixed methods of reporting, hypothesising (Mc Morrow 1998, 25), and conveying the impression of objectivity (Nash 1990). For example, "He was discharged home in good condition" is a common phrase, and it would be inappropriate to transform it into "They discharged him home in good condition". Knowledge of the phraseology of the genre (i.e. a command of the semi-prestructured phrases that occur in medical papers) will help students to understand and create meaning (Marco 2000, 77). Medical jargon is full of sequences of words and idioms which may sound unusual in everyday speech. For example, the phrase "the patient complains of ..." has nothing to do with the patient "complaining", but means that the patient "presented with". Case reports follow strict conventions that determine the phrases used to describe a particular medical situation. For example, "The postoperative course was uneventful": the term "uneventful" cannot be literally translated. To change or ignore the standard phrases is to fail to adhere to the conventions of the target text, making it sound less professional and perhaps even

compromising its scientific credibility (Berghammer 2006, 43). Still worse, inaccuracies in medical translations may have serious clinical consequences (O'Neill 1998, 70-71). Some authors have written about the struggle with English by non-native speakers. Benfield calls this weak appreciation of the conventions of discourse in English the 'English Language Burden' (ELB) (Benfield 2007, 363).

Languages for medical purposes (LMPs) today

In the last 30 years of the twentieth century, English has been rapidly exported from and imported into many languages through the dominant role of the U.S. in computer science and technology as well as medical technology. So, in addition to the Greco-Latin heritage there is knowing the current mix of standard English from all scientific and technological sources, including new eponyms, acronyms, abbreviations and trade names. Biochemistry, cell and molecular biology, immunology and bioengineering are the chief sources for the flood of new terms entering the medical dictionaries (McMorrow 1998, 24-25). According to a July 24, 1995, article in US News and World Report, about 25,000 new English words are coined every year, of which 4% make it into dictionaries. The catching up with English goes on continually in native languages, by either finding adequate native words, borrowing from English, or adapting English words to native languages (sometimes poorly) (Segura 1998, 40).

As far as the Serbian language is concerned, there has still been no established and widely accepted language of medicine in medical publications. In earlier times, there used to be a tendency to use popular terms in medical articles. Today, there are no justifications for this, since those are publications of professionals for professionals (Slavković 2004, 58). Still, when writing for a scientific journal, in the same context, it may happen that one Serbian author uses one term (e.g. *rilising hormon*), another may use *oslobadjajući hormon* and the third one may use *liberin* (Mićić 2004, 31). Another feature is that Serbian medical terms have been either forgotten or rejected in favour of Greco-Latin terms predominantly used by Serbian doctors. Finally, with the increasing influence of English as an international language of medicine, there have appeared numerous anglicized terms. Thus the Serbian medical language is a disorganized mixture of Greco-Latin and anglicized terms (Mićić 2009a, 86). This also applies to other languages of limited diffusion. For example, Croatian medical terminology is mostly based on Latin, but recently English has had a strong influence on Croatian medical langauge at all language levels (Gjuran-Coha, in press).

Medical communication

The Oxford English Dictionary tells us that the word ‘communicate’ comes from the Latin ‘to impart, to share’. ‘Communication’ is imparting, conveying or exchanging ideas, knowledge, etc. (Figure 2).

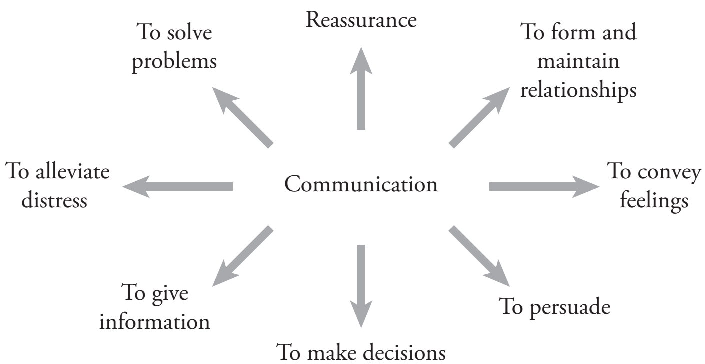


Figure 2. Some purposes of communicating (Lloyd and Bor 2006, 2-3)

The ability to communicate and interact effectively is a critical skill for all allied health professionals because of the many barriers and challenges unique to the profession (Hosley and Molle 2006, 2). Clear, concise, accurate communication in any form is important in all areas of health care. This includes exchanges between health care professionals, such as chart notes and memos etc. in which there is responsibility for making sure that information was received and understood as it was intended (Hosley and Molle 2006, 10-11).

There are five specific groups of professionals with whom health professionals must be able to communicate:

- coworkers/peers
- physicians
- managers/supervisors
- regulatory agency personnnel
- referral professionals.

Each group is unique and comes with its own set of challenges (Hosley and Molle 2006, 182-184).

Technical/Medical translation

Successful, i.e. adequate, translation implies not only the knowledge of the Source Language (SL) and the Target Language (TL) but contrastive competence, using primarily semantic as well as formal correspondents but also words and structures other than the corresponding ones to render the same or similar meaning. In the former case, it is strictly literal translation in which the translator adopts a principled approach to the source text. There is no need to change the original mold. In the latter case(s), he takes a pragmatic approach. It is the question of free translations, adaptations, paraphrases, where the TL text is independent (Hlebec 2009, 176-183).

The Language of Science and Technology (LST) is a register characterized by special(ist) terms and terminological combinations. The terms are associated with the explicitly and strictly defined concept about science and technology. Thus their referential function is expressed most, it predominates, other functions (e.g. expressive or aesthetic) being much less important. This allows a principled approach to translation implying more or strictly literal translation – transcription and transliteration of the terms.

Language proficiency testing of doctors

In Europe, there may be imposed tougher language proficiency requirements for doctors who intend to work abroad, because of their inadequate language skills in a country's official language. There is a Professional Qualifications Directive but it is interpreted differently across Europe. For example, in Italy, there is a language assessment test post-registration. In Austria, doctors are subjected to scrutiny of a panel, in Cyprus the regulator conducts interviews while in Portugal the doctors discuss a video recording with a regulatory panel. In some countries like Ireland, Malta, Belgium, it is left to employers to gauge language proficiency or a test within the first six months of employment is required (Denmark). In Poland and Serbia, it is enough for doctors to provide written declaration that their level of Polish or Serbian is up to speed while in Luxembourg there are no language requirements unless doubts are raised about a doctor's linguistic skills. In the Czech Republic, wirtten and oral tests are taken. The UK General Medical Council does not conduct language assessment because of prohibition in its regulatory framework. The council, together with 25 other European medical regulators comprise a group called Informal Network of Competent Authorities for Doctors and they issued a joint statement in 2010 asking for mandatory language testing in the interest of patient safety.

Namely, there were cases in the UK of alleged malpractice with disastrous results by foreign doctor in the media (Villanueva 2011, 321-322). In 2009, there was launched the sTANDEM project in Hungary, intended to create universal medical language test financed by the EU and to be implemented in the EU.

LMPs – future

Today, it is clear that ESP represents a necessity and, in terms of its practical value, has a greater relevance than English for General Purposes. The English language of medicine has been well developed and standardized and should be taught at all world faculties. As far as Serbia and the neighbouring countries are concerned, English for Medical Purposes courses have been much varied. There is a need to develop uniform standardized curricula.

Since the English language of medicine is highly developed, it should serve as a model for all nations as to how to build their languages of medicine. This is especially important since it has turned out that Greco-Latin terminology is no longer sufficient as a means of expressing modern medicine so all nations should build native medical terminologies and the language of medicine in their own languages. To achieve this goal, it is necessary to standardize national languages as a prerequisite for the existence of the language of medicine.

For future purposes, it is necessary to organise programmes for LSP (including medical purposes) teacher education at philological faculties. They could be in the form of master and academic specialization programmes. Enormous development of medical science and practice, both basic and clinical, has led to numerous specialized and subspecialized branches that should be followed by an appropriate language. The study of numerous specialized and subspecialized languages of medicine has been required by social circumstances. To further illustrate, molecular biology, genetics, quantum medicine as well as clinical branches, such as internal medicine, cardiology, surgery, endocrinology, dermatology and many others should be accompanied by specialized languages of medicine. Furthermore, the development of technology and pharmaceutical industry imposes the need for an adequate language to express it. All the above requires writing new pragmatic dictionaries.

In this manner, native terminology of each language will be preserved and new terms, non-existent in the language in question, will be linguistically analyzed and thus enrich the given language. This will help to avoid the flood of anglicisms and other foreign terms which have been incorrectly used and do not mean anything in either the source or the target language. It is to be especially stressed that once these

inappropriate, incomplete terms are used, they become nativized and almost impossible to correct. In order to avoid this, there should be the cooperation between language teachers and medical professionals. It is our opinion that only linguists who are trained in LSP are the ones who should teach LSP and language of medicine. Collaboration with experts in the field i.e. physicians, health professionals and particularly medical students who are taught the language of medicine will enable successful language teaching and provide adequate results expected by society.

Conclusion

Huge scientific and technological development has made languages for specific purposes a necessity today. English for Specific Purposes has been well developed and standardized. It has become *lingua franca* and, due to its importance, is no longer considered a foreign, but an additional, language.

The English language of medicine is especially relevant since enormous development of medical science, practice and technology occurs primarily in the United States of America and the United Kingdom. New terms and expressions are created in English and other languages are flooded by them (so-called anglicisms).

The English language of medicine has its standards and is being taught in almost all world countries. Other languages of medicine are strongly influenced by it and they are still in the process of developing their languages of medicine.

It is necessary to standardize languages of medicine other than English and to make a linguistic analysis of new, mostly English, terms sto that they can enrich the target language.

Each medical specialization and subspecialization should be followed by respective sophisticated languages of medicine. Languages of medical science should also be further developed.

LSP teacher education programmes need to be introduced at philological faculties. This applies to medicine, too, since there has been an increasing number of new terms and expressions as a result of ongoing huge development of medical science and practice. In this regard, collaboration between medical language experts, on one hand, and medical researchers, doctors and other health professionals, on the other, is indispensable.

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